

Notice of Allowability

Application No.

10/721,766

Examiner

Robert W. Horn

Applicant(s)

VITI, MARCO

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendments dated 2/1/2007.
2. ☒ The allowed claim(s) is/are 1-13, 15, 16, 18-22, 25-29, 31 and 33-35.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other

LINCOLN J. JOHNSON
SUPERVISOR, PATENT EXAMINER

DETAILED ACTION

Response to Amendment

The examiner acknowledges amendments after a final rejection dated 2/1/2007. The amendments are accepted as proper in that they place the application in the condition for allowance. With the amendments cancelled claim 30 is incorporated into allowable claim 31; and cancelled claim 32 is incorporated into claim 33. With the amendments claims 1-13, 15, 16, 18-22, 25-29, 31 and 33-35 are pending, and are all presently found to be allowable.

Allowable Subject Matter

Claims 1-13, 15-16, 18-22, 25-29, 31, 33 to 35 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The reasons for the allowability of claims 1-13, 15-16, 18-22, 25-29 34-35 were made of record in previous office actions.

Regarding claim 1, an additional explanation is added regarding indented limitation 3. The phrase "counting window having an arbitrary duration" is taken to mean that the window duration is changeable by the method to respond to conditions that may be arbitrary, e.g. noise. The applicant provides support for this interpretation on page 4, line 19 to page 5, line 20 and illustrated by figures 4-6.

Claim 31 is allowable for the indented steps of the method, but especially the steps:

using a bi-directional counter to count a difference in residence time of logic states '0' and '1' at an output of said detection circuitry during counting windows;
varying a counting frequency of the counter during various driving phases of the motor.

Claim 33 is allowable for all the indented steps, but especially the steps in combination:

using a bi-directional counter to count a difference in residence time of the logic states '0' and '1' at an output of said detection circuitry during each of a succession of counting windows;

using a value assumed by the counter at an end of each counting window in formulas to estimate an instantaneous portion of the rotor a period between two zero-crossings;

estimating a zero crossing based on previously determined zero crossings; and
establishing a counting window such that the estimated zero crossing is at a midpoint of the counting window.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W. Horn whose telephone number is 571-272-8591. The examiner can normally be reached on Monday-Friday 7:00-3:30 EST.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln D. Donovan can be reached on 571-272-8591. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

rwh
February 15, 2007


LINCO
SUPERVISOR PATENT EXAMINER